AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF PAGES
	1	32

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0002	SEE BLOCK 16B	WA-09-00278	

6. ISSUED BY
Federal Aviation Administration
AJA-4710, Systems Operations Contract Division
800 Independence Ave, S.W.
Washington, DC 20591

7. ADMINISTRATED BY *(If other than Item 6)*

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

*TO BE COMPLETED BY VENDOR IF NOT COMPLETE

CODE | FACILITY CODE

☒ 9A. AMENDMENT OF SOLICITATION NO.
DTFAWA-08-ACEPS
9B. DATED *(SEE ITEM 11)*

☐ 10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer is ☒ extended ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation on as amended, by one of the following methods:

(a) By completing Item 8 and 15, and returning 1 copies of the amendment; (b) acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hours and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*
NA

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT/ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, etc.)* SET FORTH IN ITEM 14,

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER *(Specify type of modification and authority)*

E. **IMPORTANT:** Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

1. The purpose of this Amendment 0002, dated 10/23/2008, is to incorporate corrections to the previous Screening Information Request (SIR), to include any Amendments thereto, and to respond to questions and answers (Q&A) raised during the Pre-Award and Pre-Bid activities under this requirement.

2. The changes incorporated under this Amendment include, but are not limited to "Change pages, additions, and deletions.

3. As a result of these changes, the closing date under this SIR is hereby modified as follow:

From: 10/28/2008, 14:00 P.M. EST To: 11/25/2008, 14:00 P.M. EST (Local Time)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)* Kenneth M. Carter	
15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY Ken Carter *(Signature of Contracting Officer)*	16C. DATE SIGNED 10/23/2008

Solicitation No. DTFAWA-08-ACEPS
Amendment 002, dated October 22, 2008 (continued)

1. Questions with Answers from pre-solicitation conference are attached, 9-pages.

2. Amendment 002 incorporates the following SIR/RFO page changes.

   a. SIR/RFO, Section-B following pages are replaced:
      Page 4, CLIN 0003A change "IAW F.9 and F.10" to "IAW F.11"
      Page 4, CLIN 0003B change "F.11" to F.12".
      Page 4, CLIN 0003C change "F.12" to "F.13"
      Page 6, Paragraph B.3(a), second to last sentence add "IAW Section F, F.9".
      Page 6 Paragraph B.3(a), last sentence change "F.10" to "F.11".
      Page 6, Paragraph B.3(d), clarification added as to when Contract Line Item Number (CLIN) 0005 is used.
      Page 7, Paragraph B.3(e), clarification added as to when CLINs 0006 and 0007 are used.
      Pages 10, 14, 18, and 22 changed CLIN 1003A,B & C, 2003A,B & C, 3003A,B & C, and 4003A,B & C references to Section F, F.11, F.12, and F.13.

   b. SIR/RFO, Section-C following pages are replaced:
      Page 26, Paragraph 4.1 change "384" to "432" volt Direct Current Link.
      Page 27, Paragraph 4.2.7 change "240" to "242"" Length.
      Page 27, Paragraph 4.2.8 added "Recommended" to beginning of sentence.
      Page 27, Paragraph 4.3.3 deleted "and 5-year" warranty requirement.
      Page 27, Paragraph 4.3.4 added clarification on "Standard" meaning non-flame retardant case and cover.
      Page 28, Paragraph 4.3.6 add bullet "q" for replacement of battery monitor wiring harness.
      Page 29, Paragraph 5.1 added Contractor site Project Manager, FAA Resident Engineer, and FAA Site Technician responsibilities.
      Page 30, Paragraph 5.2.2 add bullet "m" for acid spill cleanup.
      Page 30, Paragraph 5.2.2 add bullet "n" for floor bolt holes.
      Page 30, Paragraph 5.5 added language on use of FAA UPMs and load banks for charging batteries and testing batteries.
      Page 31, page 30 contents shifted to top of page 31.
      Page 32, page 31 contents shifted to top of page 32.
      Page 32, Paragraph 5.5.2 revised hydrogen gas testing during charging.
      Page 33, page 32 contents shifted to top of page 33.
      Page 34, page 33 contents shifted to top of page 34.

   c. SIR/RFO, Section-H Pages 45 hereby replaced.
      Page 45, Paragraph H.4 added "Applicable to" CLINs.
      Page 45, Paragraph H.5 added applicable CLINs.
      Page 45, Paragraph H.5 (b) changed FAA travel policy website address.

   d. SIR/RFO, Section-M Pages 79 and 80 are hereby replaced.
      Page 79, Paragraph M.4, sub-paragraph e) added.
      Page 80, Paragraph M.6 shifted from page 79 into page 80.

   e. SIR/RFO, Section J, Attachment J.7 hereby replaced. To "Baseline Data Provided" added the following "Cell to Cell Temperature Difference". And, added "BMS Cell Reading Accuracy Checked with Calibrated Digital Volt Meter". Two Pages.

ARTCC CRITICAL ESSENTIAL POWER SYSTEM (ACEPS) BATTERY REPLACEMENT QUESTIONS WITH ANSWERS TO SIR/RFO DTFAWA -08-ACEPS

1. **Q: B.2 (c) Contract Pricing.** Since only CLIN 0001 will be incorporated into the initial contract and the corresponding options CLINs will be determined when options are exercised, what should we use as the basis of pricing for the option CLINs? Should CLIN 0001 and all of its corresponding option CLINS be identical for evaluation purposes?
   A: Yes. (Contract Line Item Number) CLIN 0001 pricing (Base Contract Year) will be used for cost analysis purposes. The Base Year Battery UPS String (CLIN 0001A) and Battery Support Equipment (CLIN 0001B) pricing will be extended into the four Option contract years. Paragraph M.4 in Contract Section-M, will be modified to further explain use of CLIN 0001 prices in the Option contract years (CLINs 1001, 2001, etc.).

2. **B.3 Pricing Methods/Arrangements, Paragraph (b).** CLIN 0002A through CLIN 0002Y and corresponding option CLINs require inside delivery. CLIN 0003 allows for an additional delivery charges when CLIN 0001 is ordered without CLIN 0002. This indicates that, while paragraph M.7 implicitly states that multiple awards will not be made, some provision for installation outside of this contract is being considered. Please clarify the intent of CLIN 0003 and corresponding option CLINs and how batteries would be installed outside this contract.
   A: At the option of the Government internal resources may perform ACEPS battery string replacements if necessary. If internal resources replace the battery string then CLIN 0003 would be used in conjunction with CLIN 0001. (Also applies to all Option contract year CLINs corresponding to CLINs 0001 and 0003.)

3. **Q: B.2 Contract Pricing and B.3 Pricing Methods/Arrangements.** Please provide a review of how contract pricing for option years will be managed administratively to provide clarification related to the above questions.
   A: This is explained in Contract Section-B, Part B.2(c) and Section-H, paragraph H.4. Economic Price adjustment is only applicable to CLINs 1001, 2001, 3001, and 4001. All other CLINs in the Base and all Option contract years are established in the vendor's Screening Information Request/Request for Offers (SIR/RFO) bid proposal.
   And, to establish the battery and battery support equipment pricing Contract Section-L, paragraph L.1(f) requires submittal of vendor's commercially published price list. Any discount is stated in Contract Section-B.

4. **Q: C.1.4.2.7 Battery String Footprint.** The requirement is for a maximum footprint per battery string of 240" L x 28" D x 88" H. This would seem to limit to competition to a narrow range of manufacturer's. Is there any flexibility in the length, depth and height requirements?
   A: The battery string footprint will be revised to 242-inches. The limited increase is due to space limitations at sites.

5. **Q: C.1.4.2.8 Battery Jar Weight.** Is 240 pounds an absolute maximum weight per battery jar?
   A: 240 pounds is the recommended maximum. There are products in the market place that can meet this requirement.

6. **Q: C.1.4.3.6.f Cables/Connectors.** Is there a maximum length that may be specified for battery to disconnect breaker cables/connectors?
   A: No. The battery disconnect cabinet is located at one end of the existing battery strings. The new battery string will be placed in the same location, and butted up against the disconnect cabinet.

7. **Q: C.1.5.5.2 Hydrogen Reading.** Does FAA have specific procedures and test equipment requirements for taking baseline readings of toxic and/or explosive gases?
A: The FAA has not identified specific procedures or test equipment. Per Section-C, paragraph 5.5.2, Baseline Readings, baseline hydrogen readings are to be taken. Therefore the prospective bidders are to identify a hydrogen detector that can test hydrogen concentration during initial equalize and float charge of the batteries to ensure that the battery room hydrogen concentration is maintained at or less than 2%.

8. **Q:** Please amend to clarify this SOW requirement to mean " use a Hydrogen detector that will alarm during float and equalizing tests to assure that dangerous/explosive levels of Hydrogen gases are not present. Specify specific time frame for monitoring (only during charge) and % LEL (lower explosive limit) for pass fail (2% or 4%). When permanent detectors as installed, 2% LEL will produce a first level alarm that should trigger room ventilation and 4% LEL will produce a second level alarm indicating a potentially explosive condition.
A: See response to Question #7 above. Contract Section-C, SOW, paragraph 5.5.2 will be revised to clarify when to sample for hydrogen.

9. **Q:** Please ask your end user what types of batteries (Manufacturer and/or Model) they are looking for this requirement.
A: The known battery types, meeting the specification requirements, are listed in Contract Section-C, Paragraph 4.1.

10. **Q:** Please explain when CLIN 0005 would be used.
A: CLIN 0005, and corresponding CLINs in Option contract years, is only used at the direction of the Contracting Officer for conferences and meetings not connected to a specific battery replacement project. The number of vendor personnel funded under this CLIN is determined by the Contracting Officer before the conference or meeting.

11. **Q:** When are CLINs 0006 and 0007 used?
A: CLINs 0006 and 0007, and corresponding CLINs in Option contract years, are only used when CLIN 0005 is exercised and at the direction of the Contracting Officer. The number of vendor personnel reimbursed for travel to a meeting or conference is determined by the Contracting Officer prior to any meeting or conference. As a general rule meetings held in the Vendor's city or local metropolitan area are not eligible for Travel and Per Diem reimbursements.

12. **Q:** Please explain when CLINs 0003B and 0003C are used.
A: CLINs 0003B and 0003C are only used if the Government determines FAA internal resources will provide labor to replace a battery string. If installation is by the Government then either CLIN 0003B or CLIN 0003C will be ordered with CLIN 0001. This is applicable to all corresponding CLINs in the Option contract years.

13. **Q:** How much control would HQ have over the schedule of sites verses the regional offices?
A: It was briefed that FAA HQ Program Office will provide a list of sites annually. The Contractor will then draft a priority replacement schedule. The HQ ACEPS Program Manager, will coordinate that draft Contractor schedule with the field offices for concurrence.

14. **Q:** The FAA was requested to provide a clarification of the intent under the 'Manufacture's discount' entry under CLIN 0002
A: This entry was included under the SIR as an option subject to the sole discretion of the offerors.

15. **Q:** Will the Government consider allowing an economic adjustment on a more frequent basis, i.e. quarterly verses annually... applicable to CLIN 0001?
A: No. FAA will allow one economic adjustment annually, the adjustment (for revised battery cost) is to be provided when submitting cost for each Option contract year.

16. **Q:** Will the Government consider issuing a single Delivery Order based on an annual estimated quantity?
A: The FAA's goal is to issue a single Delivered Order each fiscal year. Funding placed on the Delivery Order will be based on the amount of funding allocated to the ACEPS Battery Replacement Program each fiscal year. The funding will determine the number of battery strings that can be replaced during the year.

17. **Q:** Update H.5 to "www.fedtravel.gov".
A: Contract Section-H, paragraph H.5 will be revised to list the correct internet site for Federal Government per diem rates.

18. **Q:** Do you have to be a licensed contractor in the particular state?
A: No, installation of batteries does not require licensing in each state or municipality. Disposal/Recycle of batteries will require licensed recycle facility(s) and certification of proper licensed disposal/recycling of batteries which is provided to the ACEPS site.

19. **Q:** Is spill containment required?
A: No. Spill containment will not be required for this ACEPS Battery Replacement project.

20. **Q:** Positive and Negative cables going to battery disconnect...can they be reused?
A: No.

21. **Q:** Can FAA UPS charger be used to recharge batteries after capacity test?
A: Yes. The FAA UPMs will be used for float and equalization battery charging. See SOW Section 5.5.1, paragraph 1, the FAA UPM load banks will be used for load (capacity) tests. These tests will be performed by the FAA. After the load tests the contractor shall recharge the batteries for 24 hrs using the FAA UPM modules.

22. **Q:** Clean up of acid spills required?
    A: Yes, where required.

23. **Q:** Will patching of holes in floor from bolts of the old batteries be required?
    A: Yes, where required.

24. **Q:** Will re-painting of the painting battery room floor be required?
    A: No.

25. **Q:** Coding batteries required?
    A: Yes.

26. **Q:** Folklift - will contractors be allowed to use FAA-owned forklifts?
    A: No.

27. **Q:** Intercell connection readings required?
    A: Yes.

28. **Q:** Can contractor use BMS for recharge testing??
    A: No. The BMS can be used to monitor voltage during discharge and recharge. Per the SOW, Section 5.5.1, paragraph 1, the FAA UPM load banks will be used for load testing. These tests will be performed by the FAA. After the load tests the contractor shall recharge the batteries for 24 hrs using the FAA UPM modules.

29. **Q:** Can Battery Monitoring System (BMS) cables be reused?
    A: Yes, if wiring harnesses are long enough and not damaged by removal or reconnection. If the existing wiring harness will not accommodate the new battery configuration, or damaged during installation work, then the Contractor shall replace the battery monitor harness, including the individual termination resistors back to the disconnect boxes (DCM's) mounted above the battery string. Contract Section-C, SOW, paragraph 4.3.6 will be revised to include battery monitor harness wiring reuse or new wiring.

30. **Q:** Seismic Zone 4 Racks - can this requirement be waived?
    A: No.

31. **Q:** Will the FAA technicians need access to the back of the battery string disconnect switch for maintenance?
    A: No.

32. **Q:** Will the initial equalize charging of the new battery strings and recharging of the new battery strings (following load testing), be done with the customer's onsite charger, or does the contractor need to provide its own external charger?
A: The FAA UPMs will be used to charge the battery strings.

33. **Q:** Is the winning bidder responsible for covering all labor, travel, and freight costs associated with a single cell or even an entire battery failure during the first three years?
A: Yes, See Contract Section-G paragraph G.5; and Section-C, SOW, paragraph 6.3.

34. **Q:** Is there a minimum number of techs that are required to be on site during testing?
A: No, except where OSHA would require a minimum for personnel safety requirement.

35. **Q:** As we saw during the site visit, it looks like there is additional space in the existing battery rooms to allow for the length to be increase by 8 inches. This would provide a maximum footprint of 248" L x 28" D x 88" H. This should allow all manufacturers to provide a battery configuration that is 100% compliant with the remaining SOW requirements. Please amend the maximum footprint allowed to 248" L x 28" D x 88".
A: Contract Section-C, SOW, paragraph 4.2.7 will be revised changing 240-inches to 242-inches.

36. **Q:** Please amend to remove the reference to the 5-year warranty period?
A: Yes, Section-C, SOW, paragraph 4.3.3 will be revised to delete 5-year warranty requirement.

37. **Q:** Please amend to add clarification that Standard means no Flame Retardant requirement exists?
A: Yes, Section-C, SOW, paragraph 4.3.4 will be revised to insert flame retardant not required.

38. **Q:** The procedure specifies a 24 hour equalize charge followed by a 72 hour float charge prior to connection verification and load tests, followed by a 24 hour re-charge will require substantial contractor downtime. Please amend to clarify whether the contractor must remain on-site during these charge periods, or if the site will be monitored by FAA staff during these charge periods.
A: The contractor is responsible for the battery string until battery installation project is accepted by the FAA, i.e., through the Contractor Acceptance Inspection (CAI) process.

39. **Q:** Will you provide a clarification on battery sizing requirements (SOW C.4.4) to clearly specify that you want a 450kW battery (equivalent to the existing DDV95-33 per SOW C.1.1), or if you want the battery sized for the 500KVA UPS (per SOW C.4.1)? SOW C.5.5.1, Acceptance Testing, clearly states that the battery will be tested only for a capacity of 450kW
A: The battery string shall be sized for the 500kVA/450kW UPM per Contract Section-C, paragraph 4.1.

40. **Q:** Is it the FAAs intention to split this contract?
A: No. A single vendor will be selected for the entire project. Also, a single battery type is expected for the entire project.

41. **Q:** Do the site listings represent any priority of the sites to be retrofitted?
A: No. Present FY09 funding level is for replacement of seven battery strings located at six (6) sites.

42. **Q:** How many sites may be worked on at one time??
A: Contract will allow two or three projects to be ongoing at a time. Some projects will be for a single string, however sometimes two (2) battery strings will be scheduled for replacement at a single site. Replacement of second string shall only proceed after successful Contract Acceptance inspection (CAI) of the first string.

43. **Q:**. Who has the control on when a site comes up for a Task Work Order?
A: The FAA. It is done based on the last battery capacity test data results...note that capacity testing is done once every two years until the battery capacity reaches 90%, then annually until the capacity reaches 80%. At 80% capacity the batteries require replacing. The Battery Replacement Program Office schedules the string for replacement at this time.

44. **Q:** How much schedule fluctuation is anticipated on these jobs? ?
A: FAA anticipates that the winning vendor will have a lead project manager that will interface regularly with the FAA contract team to establish schedules. Once these schedules have been agreed upon, there will rarely be changes unless a security issue arises, or another site becomes more urgent.

45. **Q:** If the FAA published per diem and travel rates change during the duration of the first year, or any year thereafter, does the manufacturer get the benefit of adjusting these prices accordingly?
A: No. The applicable CLIN(s) are Not-to-Exceed (NTE) amounts, established by the FAA before contract award. CLIN 0007, and corresponding CLINs in the Option Contract years, are the only CLINs where GSA per diem rate reimbursement applies to this contract. The per diem rates are established and posted on the internet by GSA each year. Travel rates are reimbursed at contractors cost. See answer to questions 11, above.

46. **Q:** Is GSA pricing mandatory?
A: No. It is not expected to be a basis for this contract.

47. **Q:** Do all sites have existing battery strings??
A: Yes.

48. **Q:** Could a single purchase order of batteries be ordered based on the annual forecast in order to minimize risk of battery price fluctuation for the first year?
A: The FAA's goal is to issue a single Delivered Order each fiscal year. Funding placed on the Delivery Order will be based on the amount of funding allocated to the ACEPS Battery Replacement Program each fiscal year. The funding will determine the number of battery strings that can be replaced during the year.
Note: The FAA will not pay for battery warehousing or storage fees.

49. **Q:** The FAA indicated they preferred a single invoice be presented by the vendor at the completion and acceptance of the site Task Work Order. FAA indicated no invoices should be submitted where work is not complete. FAA to clarify if vendor can submit an invoice upon shipment of the battery from the battery manufacturer and the possibility of warehoused staging for multiple sites?
A: The FAA wishes to see one (1) invoice per month. This invoice may include single or multiple sites for payment. If more than one site is invoiced then each site must be identified on a separate line item. The FAA will not pay for battery warehousing or storage fees.

50. **Q:** It is expected that the successful contractor will have at least 3-4 Project Leads that will travel around the country for each site inspection and planning meeting. These people should have security badges as a contractor. The personal performing work, may be issued a visitor's badge at each site at the time of arrival, but will require an escort at all times on the premises. FAA reiterated that valid ID, valid driver's licenses, fingerprinting, background checks is required for those contractor personnel issue FAA security badges. Due to the possibility of up to 30 days for a proper FAA contractor badge, the FAA agreed to investigate if there is a way to get a badge valid for all ACEPS sites by the team leaders.
A: An FAA contractor badge will be required by the contractor's project Team Lead(s). Team Leads will be required to be onsite during each ACEPS battery replacement project. The required badging process will be provided to the winning bidder after contract award. Contract Section-C,SOW, paragraph 5.1 will be revised to include an on-site project manager requirement for each site.

51. **Q:** Question was raised about union vs. non-union requirements at certain sites, (ie. NYC, NH, NJ). Does Installation work require Davis Bacon Wage accounting and require union labor?
A: ACEPS Battery Replacement is equipment installation, not construction, therefore does not require a Davis-Bacon Act determination. The FAA does not require nor indorse any union affiliation.

52. **Q:** Can large business concerns bid on this contract?
A: No. FAA indicated that only businesses as defined in the contract documents for small business concerns could participate. This job is a 100% small business set aside. All small business, regardless of DBE, WBE, DVBE, could bid this job.

53. **Q:** Racks installed at this site are clearly not seismic zone 4 and are apparently not seismic "certified". Specification clearly asks for seismic 4 rated racks. None of the battery vendors solicited offers a seismic zone 4 rack in a modular construction that is as tall as the sites require?
A: The current battery configuration is seismic Zone 4 rated. The seismic requirement is not waived.

54. **Q:** Is the Hampton Pre-Bid site representative of the other FAA ACEPS sites?
A: Yes. They are very similar in layout and access, just different numbers of battery strings, and different battery room widths.

55. **Q:** At the Pre-Bid site visit vendors requested the FAA to define the minimum wall clearance required on the end of the battery rack between the end wall.
A: The minimum wall clearance isn't really the issue; the issue is the maximum length of the new battery string. The maximum length is revised to 242-inch length.

56. **Q:** Is it the intention of the FAA to replace all battery conductors leading to the DC disconnect as new, or if the existing conductors can be reused?
A: Yes. Replace all battery cables to the DC disconnect panel.

57. **Q:**. What is the UPS inverter efficiency? This is relevant to sizing the battery.?
A: See Section-C, SOW, paragraph 4.4 for UPS inverter efficiency.

58. **Q:**. Do you have an ACEPS battery room drawing?
A: See Figure 1 on page 9 for a standard battery room configuration. This is a generic battery room layout. Each site will have differences, such as, room width; access door locations; and DC disconnects on opposite side of battery string; and numbers of battery strings in each room; etc..

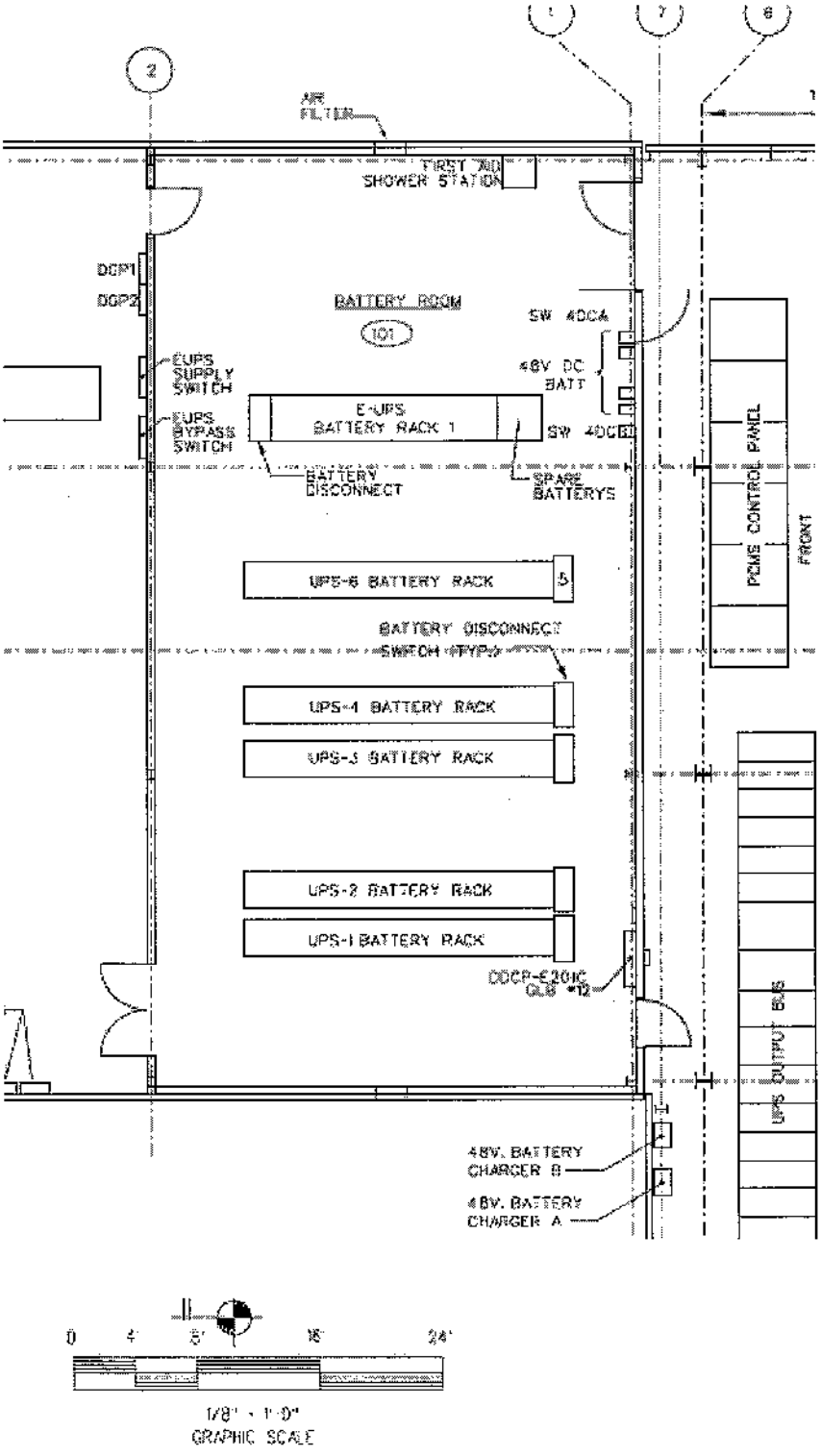

Figure 1. ACEPS Battery Room Generic Layout and Configuration.

ITEM	SUPPLIES	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
0002R	ZID Indianapolis ARTCC, Indianapolis, IN	1	STRING	$	$
0002S	ZMA Miami ARTCC, Miami, FL	1	STRING	$	$
0002T	ZJX Jacksonville ARTCC, Jacksonville, FL	1	STRING	$	$
0002U	ZBW Boston ARTCC, Nashua, NH	1	STRING	$	$
0002V	DFW Dallas/Ft Worth TRACON, Dallas-Ft Worth, TX, airport	1	STRING	$	$
0002W	ORD Chicago TRACON, Elgin, IL	1	STRING	$	$
0002X	SCT Southern California TRACON, Miramar, CA	1	STRING	$	$
0002Y	OEX Training Academy, Oklahoma City, OK	1	STRING	$	$

0003 Battery Delivery Service.

0003A	Delivery Outside the contiguous 48 United States (Anchorage, Alaska) CLIN 0002A, IAW F.11, reimbursed at contractor's cost IAW H.3.	1	STRING	NTE $ 40,000	$ 40,000
0003B	"Ground Level Delivery" IAW F.12, reimbursed at contractor's cost IAW H.3.			NTE $ 2,000	$2,000
0003C	"Inside Delivery" IAW F.13, reimbursed at contractor's cost IAW H.3.			NTE $ 8,000	$8,000

B.1(c) Program Management

0004 Program Management. IAW Statement of Work (SOW), Section C, paragraph 3.0; and IAW CDRL: M001 Program Plan, CDRL: M004 Employee/Subcontractor Master List, CDRL: Q001 Quality Assurance Plan, and CDRL: L003 ACEPS Batteries Replaced Under Warranty.

(b) For all services provided, for which prices are included in the Schedule for CLIN 0002 and 0007, for the Base Period, as well as all corresponding CLINs for Option contract periods 1 through 4 such prices shall not be adjusted.

(c) For CLIN 0001, and Option contract periods 1 through 4, all products/services offered by the contractor through its supplier(s) and/or subcontractor(s), pricing will be in accordance with the actual manufacturer's published price list/catalog, as applicable, less all applicable discounts to the contractor.

(1) It is understood that the discount rates provided at CLIN 1001 to the contractor's supplier(s) and/or subcontractor(s) list/catalog price for Option Contract Period I as well as corresponding CLINs for Option Contract Periods 2 through 4 identified at B.4 shall apply. The contractor shall provide a copy of their or its supplier(s) and/or subcontractor(s) published price list/catalog along with supporting documentation, and completed Optional Contract Period Section – B CLINs, to the FAA Contracting Officer not later than 60 days before the last day of the Base Contract Period as well as Options 1 through 3. (Note: Prices reflecting the negotiated discount may be rounded up or down to the nearest whole dollar in order to facilitate ordering and invoicing).

(2) Prices for the contractor's Base contract year for CLIN 0001 are incorporated upon award. Prices for corresponding CLINs for Options 1 through 4 identified at B.4 will be established IAW paragraph (c) (1) above.

(d) An adjustment will be made to contract prices based on the methods/arrangements as set forth at B.3(a) below at the time of exercise of any option. Price adjustments agreed to by the parties will become effective at the outset of the respective option period provided the contractor has submitted, in a timely manner, a request for the appropriate adjustment as well as submission of the required supporting documentation. See H.4, Economic Price Adjustment (Supplies).

B.3 Pricing Methods/Arrangements

(a) CLIN 0001 for the Base Period is priced on a firm-fixed-price basis. Corresponding CLIN for Options 1 through 4 as identified at B.4 are priced on a fixed-price with economic price adjustment basis with adjustments based on established prices (see B.2(c) above), offered price discount, and H.4, Economic Price Adjustment (Supplies). Pricing for the Base Period and Options 1 through 4 includes FOB destination delivery within the contiguous 48 States IAW Section F, F.9. Shipping costs for items requiring delivery outside the 48 States (CLIN 0003A) are reimbursed IAW Section F, F.11, Diversion of Shipment under F.O.B. Destination Contracts.

(b) CLIN 0002A through 0002Y for the Base Period, as well as all corresponding CLINs for Options 1 through 4 identified at B.4, are priced on per site, per string, firm-fixed-price basis, that includes, site survey, coordination meeting(s)/teleconference(s), implementation, battery string inside delivery, battery string recycle/disposal, travel, per diem, and miscellaneous supplies and cost.

(c) CLIN 0003A, B, and C for the Base Period, as well as all corresponding CLINs for Options 1 through 4 identified at B.4, are reimbursed at contractor's cost IAW H.3. CLINs 0003B and C only exercised when ordering battery strings without tasking installation under CLIN 0002, as well as all corresponding CLINs for Options 1 through 4 identified at B.4.

(d) CLIN 0005 and corresponding CLINs for Options 1 through 4 identified at B.4 are priced on a time-and-materials basis with payments made IAW AMS Clause 3.3.1-5, Payments Under Time-and-Materials and Labor-Hour Contracts. This CLIN is only used at the direction of the Contracting Officer for conferences and meetings not connected to a specific battery replacement project.

The number of vendor personnel funded under this CLIN is determined by the Contracting Officer before the conference or meeting.

(e) CLINs 0006 and 0007 and corresponding CLINs for Options 1 through 4 identified at B.4 are priced on a reimbursable basis IAW the FAA's Travel Policy (FAATP); see H.5, Reimbursement of Travel Costs. These CLINs are only used when CLIN 0005 is exercised and at the direction of the Contracting Officer. The number of vendor personnel reimbursed for travel to a meeting or conference is determined by the Contracting Officer prior to any meeting or conference. As a general rule meetings held in the Vendor's city or local metropolitan area are not eligible for Travel and Per Diem reimbursements.

B.4 Corresponding CLINs for Contract Base Period and Options 1 through 4.

Base Period	Option 1	Option 2	Option 3	Option 4
B.1(a)	***B.1(a)***	***B.1(a)***	***B.1(a)***	***B.1(a)***
0001	1001	2001	3001	4001
B.1(b)	***B.1(b)***	***B.1(b)***	***B.1(b)***	***B.1(b)***
0002	1002	2002	3002	4002
0003	1003	2003	3003	4003
B.1(c)	***B.1(c)***	***B.1(c)***	***B.1(c)***	***B.1(c)***
0004	1004	2004	3004	4004
B.1(d)	***B.1(d)***	***B.1(d)***	***B.1(d)***	***B.1(d)***
0005	1005	2005	3005	4005
B.1(e)	***B.1(e)***	***B.1(e)***	***B.1(e)***	***B.1(e)***
0006	1006	2006	3006	4006
0007	1007	2007	3007	4007

ITEM	SUPPLIES	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
1002V	DFW Dallas/Ft Worth TRACON, Dallas-Ft Worth, TX, airport	1	STRING	$	$
1002W	ORD Chicago TRACON, Elgin, IL	1	STRING	$	$
1002X	SCT Southern California TRACON, Miramar, CA	1	STRING	$	$
1002Y	OEX Training Academy, Oklahoma City, OK	1	STRING	$	$

1003 Battery Delivery Service.

1003A	Delivery Outside the contiguous 48 United States (Anchorage, Alaska) CLIN 1002A, IAW F.11, reimbursed at contractor's cost IAW H.3.	1	STRING	NTE $ 40,000	$ 40,000
1003B	"Ground Level Delivery" IAW F.12, reimbursed at contractor's cost IAW H.3.			NTE $ 2,000	$2,000
1003C	"Inside Delivery" IAW F.13, reimbursed at contractor's cost IAW H.3.			NTE $ 8,000	$8,000

B.1(c) Program Management

1004 Program Management. IAW Statement of Work (SOW), Section C, paragraph 3.0; and IAW CDRL: M001 Program Plan, CDRL: M004 Employee/Subcontractor Master List, and CDRL: Q001 Quality Assurance Plan, and CDRL: L003 ACEPS Batteries Replaced Under Warranty.

1004A	Quarterly Program Management and Cost Report	4	EA	$	$
1004B	Monthly ACEPS Battery Replacement Project Schedule Report	12	EA	$	$

B.1(d) Conferences and Meetings.

1005 Conferences and Meetings. IAW Statement of Work (SOW), Section C, paragraph 3.1.5; and IAW CDRL: M005 Agenda for Conference and Meetings; CDRL: M006 Meeting Minutes for Conference and Meetings.

1005A	Program Manager	40	HR	$	$

ITEM	SUPPLIES	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
2002V	DFW Dallas/Ft Worth TRACON, Dallas-Ft Worth, TX, airport	1	STRING	$	$
2002W	ORD Chicago TRACON, Elgin, IL	1	STRING	$	$
2002X	SCT Southern California TRACON, Miramar, CA	1	STRING	$	$
2002Y	OEX Training Academy, Oklahoma City, OK	1	STRING	$	$

2003 Battery Delivery Service.

2003A	Delivery Outside the contiguous 48 United States (Anchorage, Alaska) CLIN 2002A, IAW F.11, reimbursed at contractor's cost IAW H.3.	1	STRING	NTE $ 40,000	$ 40,000
2003B	"Ground Level Delivery" IAW F.12, reimbursed at contractor's cost IAW H.3.			NTE $ 3,000	$ 3,000
2003C	"Inside Delivery" IAW F.13, reimbursed at contractor's cost IAW H.3.			NTE $ 9,000	$ 9,000

B.1(c) Program Management

2004 Program Management. IAW Statement of Work (SOW), Section C, paragraph 3.0; and IAW CDRL: M001 Program Plan, CDRL: M004 Employee/Subcontractor Master List, and CDRL: Q001 Quality Assurance Plan, and CDRL: L003 ACEPS Batteries Replaced Under Warranty.

2004A	Quarterly Program Management and Cost Report	4	EA	$	$
2004B	Monthly ACEPS Battery Replacement Project Schedule Report	12	EA	$	$

B.1(d) Conferences and Meetings.

2005 Conferences and Meetings. IAW Statement of Work (SOW), Section C, paragraph 3.1.5; and IAW CDRL: M005 Agenda for Conference and Meetings; CDRL: M006 Meeting Minutes for Conference and Meetings.

2005A	Program Manager	40	HR	$	$

ITEM	SUPPLIES	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
3002V	DFW Dallas/Ft Worth TRACON, Dallas-Ft Worth, TX, airport	1	STRING	$	$
3002W	ORD Chicago TRACON, Elgin, IL	1	STRING	$	$
3002X	SCT Southern California TRACON, Miramar, CA	1	STRING	$	$
3002Y	OEX Training Academy, Oklahoma City, OK	1	STRING	$	$

3003 Battery Delivery Service.

3003A	Delivery Outside the contiguous 48 United States (Anchorage, Alaska) CLIN 3002A, IAW F.11, reimbursed at contractor's cost IAW H.3.	1	STRING	NTE	$ 40,000 / $ 40,000
3003B	"Ground Level Delivery" IAW F.12, reimbursed at contractor's cost IAW H.3.			NTE	$ 3,000 / $3,000
3003C	"Inside Delivery" IAW F.13, reimbursed at contractor's cost IAW H.3.			NTE	$ 9,000 / $9,000

B.1(c) Program Management

3004 Program Management. IAW Statement of Work (SOW), Section C, paragraph 3.0; and IAW CDRL: M001 Program Plan, CDRL: M004 Employee/Subcontractor Master List, and CDRL: Q001 Quality Assurance Plan, and CDRL: L003 ACEPS Batteries Replaced Under Warranty.

3004A	Quarterly Program Management and Cost Report	4	EA	$	$
3004B	Monthly ACEPS Battery Replacement Project Schedule Report	12	EA	$	$

B.1(d) Conferences and Meetings.

3005 Conferences and Meetings. IAW Statement of Work (SOW), Section C, paragraph 3.1.5; and IAW CDRL: M005 Agenda for Conference and Meetings; CDRL: M006 Meeting Minutes for Conference and Meetings.

3005A	Program Manager	40	HR	$	$

ITEM	SUPPLIES	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
4002V	DFW Dallas/Ft Worth TRACON, Dallas-Ft Worth, TX, airport	1	STRING	$	$
4002W	ORD Chicago TRACON, Elgin, IL	1	STRING	$	$
4002X	SCT Southern California TRACON, Miramar, CA	1	STRING	$	$
4002Y	OEX Training Academy, Oklahoma City, OK	1	STRING	$	$

4003 Battery Delivery Service.

4003A	Delivery Outside the contiguous 48 United States (Anchorage, Alaska) CLIN 4002A, IAW F.11, reimbursed at contractor's cost IAW H.3.	1	STRING	NTE	$ 40,000 / $ 40,000
4003B	"Ground Level Delivery" IAW F.12, reimbursed at contractor's cost IAW H.3.			NTE	$ 4,000 / $ 4,000
4003C	"Inside Delivery" IAW F.13, reimbursed at contractor's cost IAW H.3.			NTE	$ 10,000 / $ 10,000

B.1(c) Program Management

4004 Program Management. IAW Statement of Work (SOW), Section C, paragraph 3.0; and IAW CDRL: M001 Program Plan, CDRL: M004 Employee/Subcontractor Master List, and CDRL: Q001 Quality Assurance Plan, and CDRL: L003 ACEPS Batteries Replaced Under Warranty.

4004A	Quarterly Program Management and Cost Report	4	EA	$	$
4004B	Monthly ACEPS Battery Replacement Project Schedule Report	12	EA	$	$

B.1(d) Conferences and Meetings.

4005 Conferences and Meetings. IAW Statement of Work (SOW), Section C, paragraph 3.1.5; and IAW CDRL: M005 Agenda for Conference and Meetings; CDRL: M006 Meeting Minutes for Conference and Meetings.

4005A	Program Manager	40	HR	$	$

For security purposes, within four (4) weeks after contract award the Contractor shall provide a master list of all Contractor personnel and subcontractors that will be working on the ACEPS Battery Replacement task. For each person the following information shall be provided:

- Name,
- DOB,
- SS#, and
- Address(s) for the past 5 years.

The Contractor shall provide updates to the Work Force Master List as individuals and subcontractors change.

3.1.5 Conferences/Meetings. **CDRL(s): M005 Agenda, and M006 Meeting Minutes**

3.1.5.1 Post Award Conference

The contractor shall participate with Government representatives in a Post Award Conference (PAC) to be held at the contractor's facility or facility designated by the Contracting Officer (CO) not later than 30 calendar days after contract award. The conference will be held to thoroughly review the contract and SOW to ensure all parties have a clear understanding of all contractual requirements. The Contractor shall propose the agenda and record minutes for the post award conference.

3.1.5.2 Program Management Reviews (PMR)

At the request of the Government, the contractor shall conduct Program Management Reviews (PMR's) to review the contract status in terms of Performance, and Schedule. The CO or the COTR shall notify the contractor at least 20 calendar days in advance of all required briefings, reviews, and agenda items. All program review dates will be designated by the FAA CO or COTR. The Contractor shall prepare minutes and action item list in support of all meetings.

3.1.5.3 Technical Interchange Meetings (TIMs).

The Contractor shall support and participate in TIMs. The purpose of these meetings is to promote a free exchange of ideas between the Contractor and the Government in order to identify and resolve technical problems. Contractor shall have available the appropriate subject matter experts to respond to Government questions. Unless otherwise stated, all meetings shall be conducted at Government facilities or at the Contractor's facilities, or by teleconference as directed by the Government Contracting Officer.
The Contracting Officer shall notify the Contractor at least twenty (20) calendar days in advance of the planned start of each TIM. The Contractor will prepare and submit to the Government an agenda for each TIM. The Contractor shall prepare minutes and action item list in support of all meetings.

3.2 Quality Control Program **CDRL: Q001 Quality Assurance Plan**

The Contractor shall provide a copy of their existing Quality Assurance Plan (QAP) for the manufacture, storage, handling and shipping of batteries. This plan should integrate the FAA's quality control needs into the contractor's existing practices. The contractor shall conduct its quality assurance program in accordance with the approved QAP.

4.0 ACEPS BATTERY AND ACCESSORIES

4.1 Battery Type. Valve Regulated Lead Acid (VRLA) sized to support the Exide 3450 series UPS (500kVA/450kW), 432 volt Direct Current link, Zone 4 mounting design, with 20-year design life and 5-year service life, front access terminal design; from one of the following battery manufacturers.

1. SBS, T-Series
2. Exide/GNB, ABSOLYTE IIP;
3. Deka, Unigy II;
4. C&D Technologies, ms Endur;
5. Power Battery, CV Series
6. Enersys, Powersafe DDm

One manufacturer's battery type/model shall be used at all sites.

4.2 General Battery Requirements.

1. The battery strings shall consist of 192 ea. cells/jars.
2. Each single cell jar shall have a float voltage of 2.25 volts per cell (Vpc).
3. Minimum voltage during duty cycle shall be 1.67 Vpc.
4. Sealed jars, i.e. the jars have no provision for the addition of water or electrolyte or for external measurement of electrolyte specific gravity.
5. Lead-Acid Cells. Cells in which the electrodes are made of lead or lead alloys and the electrolyte is a solution of sulfuric acid.
6. The battery shall utilize a technology that has been used by the battery manufacturer for a minimum of 5 years.
7. Battery string footprint (maximum): 242" L x 28" D x 88" H
8. Recommended maximum weight of battery jar: 240 lbs.
9. Battery strings and racks shall be designed and installed to conform to 1997 Uniform Building Code (UBC) requirements for seismic zone 4.

4.3 VRLA batteries shall conform to the following criteria:

1. Battery Runtime – At 100% capacity the battery string run time shall be a minimum of 10-minutes. At end of battery life (80% capacity) the battery string shall supply the UPM for a minimum of 8-minutes.
2. Current Discharge Ratings – Each battery model shall have a chart indicating Amps to 1.67 Final Volts per cell @ 77°F for 10-minutes.
3. Warranty: 3-year warranty including, new battery, any connectors, parts, labor, travel, per diem, shipping and handling.
4. Case and Cover: Standard; non-flame retardant material.
5. Operating Temperature: Between 66^0 F and 77^0 F (19^0 C and 25^0 C).
6. Following shall be furnished with the VRLA battery string:
   a. Batteries.
   b. Battery rack/modules.
   c. Inter-battery cables/connectors.
   d. All inter-cell connectors, terminal details, interconnecting cables and hardware
   e. Tier-to-tier battery cables/connectors.
   f. Battery to disconnect breaker cables/connectors.
   g. Steel case construction.
   h. Battery weight labels for modules and individual removable cells. Weight warning labels shall be posted on all equipment in excess of 30 lbs
   i. Steel case construction.
   j. Transparent shield, easily removed, covering battery terminals. Transparent shield shall protect against accidental contact on side, top and front of battery terminals, tie bars, and/or connecting cables.
   k. Plastic guards of sufficient strength shall be installed over battery terminals and energized bus bars to ensure protection against impact against tool carts, moving equipment, etc
   l. Stainless steel tab washers shall be supplied - two per cell (jar), no more than 1 per post. The tab washers shall be able to accommodate the ¼ tab disconnect terminals on the end of the Albercorp' BDS-256 Battery Monitoring System. The battery post shall be long enough to accept the tab washer and all other cell connection hardware, while leaving at least 1 full thread of the post exposed.
   m. Insulating covers for cell support rails, and seismic side- and end-rails for the battery rack.
   n. Corrosion inhibitor for posts and inter-cell connections.

o. A complete set of numerals for numbering each cell (e.g., 1 to 192 for a 192 cell battery) and a "+" and "-" label.
p. Any other items needed to make a complete and operating battery string.
q. Battery monitor wiring harness, including the individual termination resistors, back to the disconnect boxes (DCM's) mounted above the battery string.

4.4 Battery Sizing: Each battery string shall be sized to supply the UPM for a minimum of 8 minutes at end of battery life (80% capacity) to 1.67 end Vpc average at 25 °C. At 100% capacity the battery string run time shall be a minimum of 10 minutes. The Government expects to operate the battery in float service with no less than 15 full discharges per year.
The UPS inverter efficiency at full load, 75% load, 50% load and 25% load is 92.0%, 92.2%, 91.4%, and 87.5%, respectively. UPS output Power Factor is 0.9.
Note: The kW loading for the duty cycle includes design margin (1.00) and a temperature correction factor (1.00).

4.5 Factory Tests and Inspections **CDRL: E001 Factory Test Data**

1. Leak Test: A leak test shall be conducted on each cell. Any cell that is found to leak must be replaced. All cells shipped must have satisfactorily passed the leak test. Records of the leak tests shall be furnished to the Contracting Officer upon request.
2. Visual Inspection: Each cell shall be given a visual inspection before shipment following the manufacturer's standard procedure. All cells shipped must have satisfactorily passed the visual inspection. Records of the visual inspection shall be furnished to the Contracting Officer upon request.
3. Float voltage: After formation, all of the cells, including spare cells (if specified), shall be placed on float charge (preferably on one circuit) for a minimum of 72 hours and each individual cell's voltage should be read (after 72 hours minimum on float). Each cell's float voltage shall be no more than ±0.08 Vdc from the average float voltage for the string. These data shall be furnished to the Contracting Officer upon request.

4.6 Battery Room Environment.

1. Elevation above mean sea level:	< 6000 ft.
2. Minimum expected temperature in battery room (°C/ °F)	22 °C/72 °F
3. Maximum expected temperature in battery room (°C/ °F)	28 °C/82 °F
4. Battery room design temperature (°C/ °F)	25 °C/77 °F
5. Battery room relative humidity range (%)	0-100%
6. Other (e.g., salt-laden air, dust)	N/A

4.7 Commercial Documentation **CDRL: E002 Commercial Support Documentation**
The contractor shall provide one soft copy from the battery manufacturer of the following applicable battery documents:

1. Installation instructions.
2. Care and maintenance documentation necessary to maintain the battery system to ensure the longest life possible, i.e. required maintenance tasks, task frequencies (monthly, semi-annually, annually, etc.), recommended charger settings, float voltage limit, cell voltage limit, cell resistance, interconnection resistance, and ambient temperature,
3. Material Safety Data Sheet (MSDS).
4. Ampere-Hour and discharge time tables and graphs.
5. Watts per cell table run-time table(s).
6. A copy of all tolerances shall be left at each ACEPS site.
7. Battery rack footprint configuration.
8. Battery warranty.

The Government shall have the right to reproduce, copy, and use, documentation. All materials provided to the Government shall be free of all encumbrances, to include any prohibition on reproduction or use by the FAA for official Government purposes.

5.0 IMPLEMENTATION

5.1 Battery Replacement General Requirements

The Contractor shall perform the following tasks at each site for each UPM string replacement.

1. Site Survey, and revisions.
2. Project Briefing.
3. Pre-Performance meeting.
4. Battery Replacement Site Preparation and Installation.
5. Battery Recycle/Disposal.
6. Battery Testing and Baseline Readings.
7. Contractor's Acceptance Inspection.

Contractor Project Manger. The Contractor shall identify, in writing, a Project Manager (PM) for each site. The PM shall be the Contractor's on-site point-of-contact. The PM will be issued an FAA Contractor's badge. All other site contractor personnel will be issued temporary site visitor badges. The PM will remain on-site for the duration of the project.

FAA Resident Engineer (RE). The Contracting Officer shall identify, in writing, a Resident Engineer (RE), for each battery replacement project. The RE will be the site point-of-contact. Air traffic control activity shall have priority over all contractor activities. The project shall not inhibit air traffic operational control or alter the status of the facility's power system.

FAA Site Technician Responsibility. Only local site Environmental Service Unit (ESU) technician(s) shall have authority to disconnect or connect electrical power to the UPM, Load banks, and operate the DC disconnect breaker. All requests for power connection or disconnection shall be submitted to the FAA RE who in turn will contact the local ESU technician. At some sites the FAA RE is the ESU technician.

5.2 Site Survey Task. **CDRL: E003 Site Survey Report, Contractor's Statement of Work**

5.2.1 Site Survey scope of work to install and dispose of ACEPS battery string(s) at FAA National Air Space facilities shall be in conformance with specific task/delivery orders. When directed, the Contractor shall visit the site(s), based on an ACEPS battery installation task order, to verify existing conditions and to become familiar with the existing UPM battery string(s) configuration, and surrounding support environment. The Contractor shall prepare a Site Survey Report. From this Site Survey, preliminary site layouts, and schedule of work shall be made and submitted for approval within 20 calendar days after the visit, unless otherwise directed.

5.2.2 At a minimum the survey shall address items (a) through (l) below.

a. Site Plan, showing building containing UPM battery string(s) in relation to the facility perimeter fence and service entrance gate, access roads, contractor parking area, temporary exterior storage and work area.
b. Floor plan of UPM battery room, battery string locations, and building service entrance.
c. Site points-of-contact, FAA personnel allowed to connect energize and de-energize equipment.
d. Schedule of battery delivery, battery pick up and disposal. IAW Section H.10.
e. Sequence of events, and battery string replacement phasing if more than one string is replaced at a site to maintain UPM system redundancy. .
f. Procedures to limit risk to operational facility power system equipment.
g. Limit of work area, contractor employee conduct and security procedures. IAW Section H.1 andH.2
h. Facility security requirements. IAW Section H.1 andH.2.

i. Life Safety procedures. Complete FAA Form 3900-8, Project Safety and Health Checklist with the facility's Safety Representative or designee prior to the start of any battery replacement activities. The completed form is to be signed off by the facility representative, see Contract Section J, Attachment J.8, FAA Form 3900-8.
j. Permits. The Contractor shall identify and obtain any federal, state, or local permits that are applicable to the site and task assigned.
k. Security Requirements. Names and social security numbers of contractor's on site work force from master list of vendor and subcontractor on-site personnel.
l. Identify risk(s) associated with this implementation and plan to minimize facility disruption from those risks.
m. Identify acid spills around existing battery string to be cleanup.
n. Identify floor bolt mounting holes to be sealed with epoxy concrete.

5.3 Project Briefing. **CDRL: E004 Site Survey Report, Contractor's Statement of Work – Revision 1**
Project briefing 14-calendar days following submittal of the Site Survey Report, Contractor's Statement of Work the Contractor shall participate in project review teleconference. The teleconference will discuss the contents of the Site Survey Report and provide a forum for the FAA Program Office, FAA facility Environmental Support Unit and the Contractor to discuss the project, and conditions under which implementation will be accomplished. Revise and submit Site Survey Report 5-calendar days following teleconference.

5.4 Pre-Performance Meeting. **CDRL: E005 Site Survey Report, Contractor's Statement-of-Work – Final**
A pre-performance meeting with facility personnel is to be held, at the facility, on the first day of each project. The Contractor shall:

1. Be briefed by FAA RE on: work hours, importance of FAA air traffic facility; use of facility restrooms, cafeteria, and prohibited areas.
2. Submit FAA Form 3900-8, Project Safety and Health Checklist, with the facility's Safety Representative or designee prior to the start of any battery replacement activities.
3. Review FAA and Contractor points of contact.
4. Review Schedule of work, disconnects, string activation, and delivery schedule.
5. Review risk management plan.
6. Review safety procedures.
7. Update Site Survey Report.

5.5 Battery String(s) Site Preparation and Installation Task.
The Contractor shall replace one or two battery strings per site. All contractor personnel shall be trained in the installation, integration, and testing of a UPM battery string. If more than one UPM battery string per site is designated for replacement the string replacement shall be done sequentially; completing removal, replacement, and testing of one string before commencing work on the next string. Removed and new batteries shall not be stored on Government property.

The contractor shall use the FAA UPMs to charge the battery strings. The FAA UPM load bank shall be used for battery testing.

The contractor shall coordinate with the FAA RE to ensure any necessary equipment reconfiguration has been completed prior to the start of any battery replacement activities.

Buffing and/or sanding of the lead battery terminals and connector plates shall not to be performed inside any FAA facility. Buffing and sanding the plates is also prohibited around all eating areas, including outdoor picnic tables, BBQ pits, etc. During buffing and/or sanding activity drop clothes shall be used to collect debris. All buffing, sanding, drop cloths shall be disposed of off Government property in accordance with state and local regulations. Spray-painting is not allowed in FAA facilities.

The Contractor shall ensure that the replacement battery system is installed in accordance with manufacturer's recommendations, IEEE 1187, and wiring installed in accordance with current edition of the National Electrical Code (NEC).

During battery handling and replacement work the contractor shall comply with the following Occupational Safety & Health Administration (OSHA) regulations (see Section-J, Attachment J.10), and National Fire Protection Association (NFPA) references:

- 29 CFR 1910.132, General Requirements (Personal Protective Equipment) (3 pages)
- 29 CFR 1910.133, Eye and face protection. (Personal Protective Equipment) (3 pages)
- 29 CFR 1910.135, Head protection. (Personal Protective Equipment) (2 pages)
- 29 CFR 1910.136, Occupational foot protection. (Personal Protective Equipment) (2 pages)
- 29 CFR 1910.138, Hand Protection. (Personal Protective Equipment) (1 page)
- 29 CFR 1910 Subpart I, Appendix B, Non-mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection. (7 pages)
- 29 CFR 1910.303, General Requirements (Electrical – Design Safety Standards for Electrical Systems) Parts (a) – (g) (pages 1-9 of 14pages)
- 29 CFR 1926.403, General Requirements (Electrical Construction Standard) Parts (a) – (i) (pages 1-5 of 8 pages)
- 29 CFR 1926.441, Batteries and Battery Charging (Electrical – Safety Requirements for Special Equipment) (2 pages)
- NFPA 70E, Article 320.8 Personnel Protective Equipment. The following protective equipment shall be available to employees performing battery maintenance:
  (1) Goggle and face shields.
  (2) Chemical-resistant gloves.
  (3) Protective aprons.
  (4) Protective overshoes.
  (5) Portable or stationary water facilities for rinsing eyes and skin in case of electrolyte spillage.
- NFPA 70E, Article 320.9 Tools and Equipment. Tools and equipment for work on batteries shall comply with the following:
  (1) Be of the non-sparking type.
  (2) Be equipped with handles listed as insulated for the maximum working voltage.

The Contractor shall inform the FAA RE if compliance with the above listed regulatory requirements presents an operational conflict with the ACEPS Power System.

5.5.1 Acceptance Testing. **CDRL E006 Battery Load Test**

When following IEEE 1187, after installing the new batteries, the Contractor shall place a freshening (equalize) charge at 2.30 Vpc on the battery string for 24 hrs. After the 24-hr freshening charge, a 72-hr float charge shall be applied. Then an Alber Cellcorder shall be used to record the internal and inter-cell (strap) resistances for the entire battery string to verify all connections. Next, the Acceptance (capacity) test using the FAA UPM load banks will be performed by the FAA to verify the battery installation. After the capacity test, the Contractor shall recharge the string for 24 hours before being placed into the array.

FAA Acceptance testing of the battery should be at 450 kW on the module. However, with the load banks available with ACEPS, the closest we can get is 430 to 440 kW without going into overload on the module. Therefore the load will be placed as close as possible to 410 kW at the load bank meter.

Prior to the start of the test, the Contractor shall record the load bank switch settings, the DC link voltage at the battery, and the discharge current. Once the test is started the Contractor shall note the string current every 2 minutes during the test. The test will continue until the battery string voltage reaches 320.6 Vdc (1.67 end volts per cell x 192 cells). The battery string's 100% capacity run time shall be ≥ 10 minutes, with no cells below 1.60 volts. The 80% capacity run time shall be ≥8 minutes.

At the conclusion of the test, the Contractor shall note the final discharge current and DC link voltage. The Contractor shall use these values to calculate the kW per string and kW per cell values. Then use the Watts Per Cell to 1.67 Final Volts Per Cell value on the battery manufacturer's cell performance data sheet to interpolate the rated time to specified terminal voltage, T_s. T_a is the actual time of the test to reach 320.6 Vdc. Lastly, calculate the battery string's actual capacity at 320.6V using the equation "% capacity = (Ta/Ts) x 100%". This information is to be provided as baseline data. For future testing the same load bank settings shall be used by the FAA.

The test data is logged on Section-J, Attachment J.7, and into the Facility Reference Data File (FRDF).

5.5.2 Baseline Readings. **CDRL E007: Baseline Readings**
Upon successful completion of all acceptance tests the Contractor shall provide the following baseline readings for the replacement battery system

a. String float voltage (full charge),
b. Equalization voltage,
c. Cell voltage,
d. Cell resistance, IAW Section J, Attachment J.9.
e. Inter-cell (strap) resistance,
f. Inter-cell connection torque, and
g. Ambient temperature.

The resistance readings, (d) and (e) above, shall be taken prior to the capacity test (Battery Load Test), all other readings are taken at the end of the capacity test, after the string reaches its end voltage of 320.6 Vdc. All readings shall be within the battery manufacturer's tolerances. Record baseline data readings in Section-J, Attachment J.7.

The contactor shall use a hydrogen detector that will alarm during float and equalizing charging to assure that dangerous/explosive levels of hydrogen gases are not present in the battery room. If the percentage of hydrogen gas reaches the 2% level battery room ventilation shall be used to lower the hydrogen gas concentration. If the percentage of hydrogen gas exceeds 2% battery charging shall terminate.

5.5.3 Reinstallation of Battery Monitoring System
After replacing each battery string the Contractor shall coordinate with the local Environmental Service Unit personnel the reinstallation of all Alber BDS-256 Battery Monitoring System (BMS) connections, and ensure that the BMS is sensing all replaced cells.

5.5.4 Site Cleanup and Restoration **CDRL E008. Certificate of Recycle and Disposal**
The Contractor shall accomplish site cleanup and restoration. Site cleanup and restoration shall at a minimum include the following:

1. Remove all Contractor-furnished material, tools, and equipment that will not become Government property upon acceptance of site work.
2. Remove all trash, litter, packing and excess material from the site and disposal of such material.
3. Dispose all battery racks, and other materials and wastes (including lead dust, drop cloths, buffing/sanding, and cleanup materials) in accordance with Federal, State and Local regulations. This documentation shall include the following:
    a. A shipping (or hazardous waste) manifest containing the name, address, EPA identification number, contact person, phone number, date of waste disposal, and original signatures of the transporter and disposal facility.

b. A signed document certifying the fact of disposal, the disposal process used, the disposal date, and the manifest number of the waste disposed.

4. Recycle all spent batteries in accordance with Federal, State and Local regulations. The existing batteries are Yuasa DDV95-33. Provide recycle documentation to the Contracting Officer or Resident Engineer. This documentation shall include the following:
   a. A shipping (or hazardous waste) manifest containing the name, address, EPA identification number, contact person, phone number, date of waste receipt, and original signatures of the transporter and recycle facility.
   b. A signed document certifying the fact of recycle, the recycle process used, the recycle date, and the manifest number of the waste disposed.

5.5.5 Contractor Acceptance Inspection (CAI) **CDRL E009. CAI Checklist**
Prior to leaving the site, the Contractor shall participate in a Contractor Acceptance Inspection (CAI) with the FAA RE and local Airway Facilities personnel to ensure the replacement battery string(s) have been installed according to this SOW. The FAA RE will complete the Battery Replacement CAI Checklist, See Section-J, Attachment J.7. The Contractor must meet all requirements on the checklist prior to departing the site. A copy of the checklist, signed by FAA RE and the Contractor shall be left at each site. Softcopies as directed in CDRL E009.

The Contractor shall coordinate with the FAA RE to resolve any CAI Checklist exceptions that fall under this SOW.

6.0 LOGISTICS SUPPORT

6.1 Battery and Accessory Parts. **CDRL L001. Battery/Accessories Parts List**
The contractor shall identify all parts used in the battery replacement project within 30 days of contract award. Identify parts by manufacturer, model/part number. Also identify the quantity of each item required for each ACEPS UPS battery string. The contractor shall inform the FAA contractor via official letter of all battery design or manufacturing changes within 30 days of the change.

6.2 Support Equipment List. **CDRL L002. Battery Support Equipment List**
The contractor shall provide a list of battery support equipment such as, battery extraction tool, vent plug wrench, etc.

6.3 Battery Warranty. **CDRL L003. ACEPS Batteries Replaced Under Warranty**
Replacement of defective battery(s) is in accordance with contract Section-G, paragraph G.5. The Contractor shall examine defective battery(s) identified by the government within 7 calendar days of notification. Following verification of defective battery(s) the Contractor shall replace the battery(s) within 14 calendar days.

(a) Battery/Batteries. The in addition to the battery(s) the contractor shall be responsible for all F.O.B. destination costs during the warranty period, i.e. interconnection parts, labor, packaging, handling, shipping and transportation, and licensed disposal of defective battery(s). The contractor shall provide labor and travel to replace or repair any battery or connector product(s) that fail in operation within the battery warranty specified in CLINs 0001A, 1001A, 2001A, 3001A and 4001A. Warranty begins 60 calendar days from date of delivery, or date of ACEPS battery installation, which ever occurs first. Parts used for replacements are warranted for the longer of 90 days or the remainder of the original warranty period. The Contracting Officer will give written notice of any defect or nonconformance to the contractor within a reasonable period of time after discovery. Replacements of contract items shall be made promptly and on a FOB destination basis.

(b) The rights and remedies of FAA provided in this clause are in addition to and do not limit any rights afforded to FAA by any other clause of this contract or under applicable Federal or State law, including the Uniform Commercial Code.

C.2 EMERGENCY SITUATIONS AND EXERCISES DURING CONTRACT PERFORMANCE CLA.4548 Contract Performance (SEP 2001)

(a) Emergency situations and exercises are temporary exceptions to the prohibition of contractor personnel not being subject to the direction and control of Government personnel when performing non-personal contract services in FAA facilities.

(b) All contractor personnel at a FAA work site or facility during an actual emergency shall conform to the procedures posted or directed by FAA officials responsible for emergency response at that site or facility. Such officials include evacuation wardens/monitors, security personnel, Emergency Readiness Officers, management, etc.

(c) Contractor personnel shall participate in all emergency exercises, including evacuations, as part of performance under this contract. On rare occasions and based on advance arrangements that are then *announced at the time of an exercise,* contractor personnel will be excused from /evacuations.

(d) Contractor management/supervisors shall ensure that each contractor employee assigned work in FAA facilities possesses a general awareness of emergency and evacuation procedures at all locations where the employees might be during an emergency or exercise. Information on emergency procedures may be requested from the Contracting Officer's Technical Representative or a designated FAA contact point at the work site.

H.4 ECONOMIC PRICE ADJUSTMENT (SUPPLIES) Applicable to CLINs 0001, 1001, 2001, 3001, and 4001

(a) This clause becomes operative upon the government's exercise of any option as set forth in Section B and upon the annual update of prices as contemplated herein.

(b) The contractor warrants that the unit prices stated in the Section B for CLIN 0001 are not in excess of the contractor's/supplier's applicable established distributor's prices in effect on the contract date for like quantities of the same item. The term unit price excludes any part of the price directly resulting from requirements for preservation, packaging, or packing beyond standard commercial practice. The term *established distributor's price* means a price that: (1) is an established catalog or published price to the contractor's distributors for a commercial item sold in substantial quantities to the general public; and (2) is the net price after applying any standard trade discounts offered by the contractor to its distributors.

(c) If the contractor's applicable established price reflects an increase or decrease as of the award date each contract option period, the corresponding contract unit price shall be increased or decreased accordingly. The contractor shall provide written notice to the Contracting Officer of the actual increase or decrease to the established price of each CLIN along with a copy of the corresponding established distributor's price list. The contract shall be modified accordingly, subject to the following limitations:

(1) Options I through IV CLINs 1001, 2001, 3001, and 4001 the increased or decreased contract unit price shall be effective on the effective date of the new contract period, i.e., first day of the option period, provided that the contractor's written notification is received not later than 60 days prior to the first day of the contract period in accordance with B.2(c). If the written notification is received later than 60 days prior to contract expiration, except that if the adjustment resulted in a decrease, the effective date would be retroactive to the first day of the contract term.

(2) The increased or decreased contract unit price shall not apply to orders placed prior to the effective date of the modification.

(3) No modification increasing a contract unit price shall be executed until the Contracting Officer verifies the increase in the applicable established price.

H.5 REIMBURSEMENT OF TRAVEL COSTS (DEC 2003) CLA.4531
Applicable to CLINs 0006, 0007, 1006, 1007, 2006, 2007, 3006, 3007, 4006, and 4007.

This clause governs the payment of travel expenses as a direct contract cost, as differentiated from indirect travel cost or Company travel that would be governed by the Contractor's internal travel policies. The Government will reimburse the contractor for travel costs, as specified in this clause that are required, approved and incurred by contractor personnel traveling outside the commuting range of their assigned work location in performance of this contract.

(a) Travel under this clause must be funded under the contract/order and then authorized in advance by the Contracting Officer (CO) or Contracting Officer's Technical Representative (COTR) before travel costs are incurred and charged as a direct contract cost. All travel-related expenses claimed for reimbursement shall be separately identified by individual, by trip. The contractor shall submit proof of its actual purchase price for commercial transportation, lodging and any other items for reimbursement at actual cost. Unless directed otherwise, in writing, by the CO or COTR, subsistence cost (meals and incidental expenses) shall be billed and paid on the per diem basis specified below.

(b) Government reimbursements for claimed travel costs, including per diem, will be made in accordance with the FAA's Travel Policy (FAATP), as amended, issued by the Federal Aviation Administration and maintained on its website, http://www.tc.faa.gov/acx30/travelinfo.html. Reimbursement for common-carrier fares shall be limited to actual cost of the lowest economy, standard, coach, or equivalent fare offered during normal business hours, plus customary agent fees. Any other common-carrier charges, reimbursement for private or corporate air travel or use of rental cars must be included in an advanced written authorization to travel. Expenses for transportation by private or corporate vehicles shall be reimbursed on a mileage basis at the FAATP transportation rates in effect at the time the travel is accomplished, plus necessary tolls, or at the total constructive cost of common carrier transportation, whichever is most advantageous to the Government.

M.4 Price Analysis

a) It is anticipated that proposed prices received resulting from this SIR/RFO will be determined fair and reasonable based on adequate price competition. The FAA will conduct a price analysis to determine price reasonableness based on competition. If reasonableness of price cannot be determined through adequate price competition or by other method(s) of price analysis, the FAA will evaluate additional information required as a result of Provision L.4 herein to establish price reasonableness.
b) Proposals, whether initial or revised submissions, which are unreasonably low or high may be eliminated from further competition on the grounds of the vendor's failure to comprehend contract requirements.
c) Proposals that reflect unbalanced prices may be eliminated from further consideration on the basis that such pricing may increase performance risk and could result in payment of unreasonably high prices.
d) In order to establish an overall estimated contract price for the base and all option periods, the Government will use a price evaluation work sheet to arrive at each vendor's total estimated contract price. Attachment M.1, Sample Price Evaluation Work Sheet, represents an example of how the price evaluation work sheet will be completed using Best Estimated Quantities (BEQs) and unit prices derived from each vendor's proposal at Section B. The sample work sheet "Estimated Quantity Per Year" column will be completed with actual estimated quantities, as found on Section B, since this is a demonstration "Unit Price" column prices are not related to any vendor or supplier costs. All estimated quantities are the same for each proposal. All Contract Line Item Numbers (CLINs) are then totaled to provide an estimated total contract price for that vendor for each contract period (five 1-year periods). The Government will complete five (5) price evaluation work sheets for each vendor proposal. The cost/price evaluation team will use these completed price evaluation work sheets as part of the cost/price evaluation.
e) CLINs 0001A and 0001B are priced for the Base Contract year, prices then determined on discounts from the vendor's regularly published price catalog for Contract Option years I through IV; this is in accordance with Section-B, B.2(c). For purposes of cost/price evaluation, the corresponding Base Contract year prices listed in CLIN 0001 will be applied to corresponding CLINs in Option Contract years I through IV.

M.5 Risk Assessment

a) The FAA will assess each proposal based upon perceived risks to the FAA associated with the offer, to include, but not be limited to, the areas of past performance, technical competence and understanding of the work requirements and reasonableness of offered prices to ensure satisfactory performance of any resultant contract.
b) A risk assessment will be accomplished at the conclusion of the overall evaluation process (i.e., evaluation of Factors 1 through 4 as well as related pricing).
c) The risk assessment may be conducted by the IPT and the TET Lead or by an alternate team designated by the IPT. In any event, no member of the TET, other than the TET Lead, may participate in the risk assessment.
d) Categories to be used in assessing risk to the Government are:

- Little or no apparent risk
- Low risk
- Medium risk
- High risk
- Unacceptable risk

M.6 Best Value Determination.
The offer that provides the greatest overall value to the FAA will be selected for award. A technical/price tradeoff will be made. The lowest total evaluated price offer may not provide the greatest overall value to the Government. Best value will be based on the following:

- Technical Evaluation results and ranking of vendors.
- Cost/Price Evaluation - BEA work sheets.
- Risk Assessment.

To arrive at a best value decision, the IPT and Source Selection Official (SSO) will integrate the source selection team's evaluation of the specific criteria described above. While the FAA source selection evaluation team and the SSO will strive for maximum objectivity, the source selection process, by nature, is subjective and professional judgment is implicit throughout the entire process.

M.7 Single Award

Notwithstanding any other provision of this SIR/RFO, award of this contract will be made on the basis of "Best Value to the FAA", with technical being more important than price. Multiple awards will not be considered.

FAA/Contractor Installation Acceptance Checklist

Inspection Date: _____		
	Meets Requirements	Does Not Meet Requirements
All battery system components installed?		
1. Batteries, 192 cells per string	_____	_____
2. Cables, Staps, and Hardware	_____	_____
Battery System Operational?		
1. Capacity readings are at least 90%	_____	_____
a. Battery string # ____ Capacity _____ % b. Battery string # ____ Capacity _____ %		
2. Battery maintained critical load for a minimum of 10 minutes? Actual time test ran: a. Battery String # ____ Run time: ___min. b. Battery String # ____ Run time: ___min.	_____ _____ _____	_____ _____ _____
Baseline Data Provided (for each string)?		
1. Float Voltage (full charge)	_____	_____
2. Equalization Voltage	_____	_____
3. Cell Resistance	_____	_____
4. Intercell Resistance	_____	_____
5. Intercell Connection Torque	_____	_____
6. Cell voltage (float)	_____	_____
7. Ambient operating temperature	_____	_____
8. Current Readings from discharge test	_____	_____
9. Hydrogen Reading Result	_____	_____
10. Cell to Cell Temperature Difference	_____	_____
BMS reinstalled on new battery system?	_____	_____
BMS Cell Reading Accuracy Checked with Calibrated Digital Volt Meter?	_____	_____
Battery Mfr Documentation Provided?		
1) Installation and Operation Instructions	_____	_____
2) Maintenance Procedures	_____	_____
3) MSDS Sheets	_____	_____
4) Performance Specifications, Watts per cell at 77^0 F, 5 minutes to 90 minutes	_____	_____
5) Battery Layout Drawing	_____	_____
6) Battery Warranty		
Battery Disposal Documentation Provided?	_____	_____
Facility Cleaned?	_____	_____

Comments/Action Items/Exceptions:

SIGNATURES: (Some May Not Apply)

Power Services Group Representative	Infrastructure Construction/Installation Center Representative
Facility Representative	Contractor Representative